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gives expression to these activities. That the GAZETTE has been better than its promise is the record of the year just closing, and as we clear our decks for another year it is with the determination to surpass anything we have yet done. With this promise to our friends we wish them a happy and successful new year.

THERE IS some feeling among American botanists that their labors are not fully recognized in Europe, being passed by when credit is really due them. We desire to point out one reason for this apparent neglect, a reason that our opportunities of knowing enable us to assert is a very important one, and which points to partial remedy within the control of each author. We refer to the distribution of separately printed copies of important articles contained in journals and society publications. We venture to say that the number of copies now sent by most authors to German and other foreign investigators is very small and wholly inadequate. A satisfactory distribution would require that a copy of every important research should be sent to other workers in the same line, to the prominent botanical periodicals, and to the chief libraries. If it can also be placed on sale, so much the better. If authors will take this small trouble and expense, the knowledge and recognition of American botany abroad will be advantageously improved.

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## OPEN LETTERS.

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### Orientation of Cassia leaflets.

The region about me is literally clothed with a growth of the two species of Cassia, *C. nictitans* and *C. Chamaecrista*. I notice this summer what I never happened to have observed before, that, in the afternoon especially, all the leaflets are so disposed as to present their surfaces to the declining sun. In thousands of specimens I can find no exception. This presentation of necessity gives something of a north and south trend to the edge of the leaflets, so here we have compass plants of a certain kind.

W. W. BAILEY.

*Brown University, Providence, R. I.*

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### Eupatorium perfoliatum.

In August last I collected a stout specimen of this plant, nearly four feet high, having a whorl of three leaves at each node. The leaves of each whorl were united around the stem much as in the usual form, except that there was a superfluity of tissue at the points of cohesion, thus making the bases of the leaves crispate.

J. FRANKLIN COLLINS.

*Providence, R. I.*

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## CURRENT LITERATURE.

*Life Histories of Plants.* By Professor D. McAlpine. pp. 296. Illustrated. Swan Sonnenschein, Lowrey & Co., London. 1886. sq. 12°.

This is a successful attempt to put the latest phases of botany in such a popular way that any intelligent person can understand them. Such attempts can not be too warmly commended, for they are important and difficult. As the intelligent popular mind becomes acquainted with these facts the chances for foundations for original investigation multiply, but the difficulty lies in

popularizing without misstating. Professor McAlpine has accomplished this task as well as we have yet seen it done. The book was not written for botanists, but it should be able to stand the fire of their criticism. At the same time botanists must not criticize technical points or omitted facts. It is simply a question as to whether what has been stated is clear enough to be understood or is not misleading. The book begins with a chapter upon the comparative study of plants and animals on a physiological basis, and another upon the living cell. The remaining pages take up types, beginning with the lowest, and give a condensed account of their structure and life history, over forty being considered. The book is not only a capital one for the general reader, but would be very helpful in the hands of the young laboratory worker. The figures are the same that have done such long and efficient service in botanical works, and a few changes in that direction would have been both easy and valuable. There are some things that might be criticised. In referring to the function of chlorophyll, p. 69, Pringsheim's "screen" theory is given without any mention of there being a diversity of opinion upon the subject. The use of the terms "root" and "shoot" are carried down to the lowest plants on physiological grounds, but the average reader will not distinguish between root-function and root-structure, and so we would class the use of these terms as misleading. The terms "microspore" and "macrospore" are carried through to the highest plants, a thing proper enough perhaps for the technical botanist, but the audience for whom the book is written had better know what the pollen-grain and embryo-sac mean. On p. 229, in speaking of the germination of the teleutospores of wheat-rust, the statement that they "*only* continue their course of development on the Barberry-leaf," should be modified in accordance with the fact. But these are mostly matters of judgment, and we would commend the book as being very readable and serviceable.

*Preliminary Synopsis of North American Carices*, including those of Mexico, Central America and Greenland, with the American bibliography of the genus. By L. H. Bailey, jr. pp. 99, v. Reprinted from Proc. Amer. Acad., April 14, 1886.

That the genus *Carex* needs elucidation all botanists will agree, and Professor Bailey has done us good service in thus recording the results of his study. A proper judgment upon such work can be passed only after using it, and whatever is said now is based upon the author's known ability. Such a vast genus is, of necessity, a most bewildering tangle, and if Professor Bailey has straightened it all out he has done far more than he claims. Of course it will be found faulty in parts, and the author will probably be quicker to recognize that than any one else, but it must surely advance our knowledge of carices and lighten the labor of naming them. Changes in nomenclature are quite numerous and radical, and the author deserves commendation for his attempt to observe the law of priority. The paper gives distinguishing characters for all species not described in Gray's Manual, Chapman's Flora and Coulter's Manual. The breaking away from the old artificial groupings, and the attempt to distribute species in natural groups, is noteworthy. Professor Bailey has put us under an obligation which should be repaid by the careful use and criticism of his paper.

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## NOTES AND NEWS.

THE HERBARIUM of Lamarck has been acquired by the French government and placed in the Jardin des Plantes.

PROF. W. W. BAILEY finds that the stamens of *Parnassia* mature one at a time, and asks if this has been observed before.

THÉODOR G. ORPHANIDÈS, emeritus professor of botany at the university of Athens, died in August last at 69 years of age.